

What is claimed is:

1. A method of performing threat assessment within a vehicle comprising:

detecting at least one object;

determining kinematics of the vehicle;

5 determining kinematics of said at least one object;

determining a brake threat number in response to said vehicle kinematics and said kinematics of said at least one object; and

10 determining a threat of said at least one object in response to said brake threat number.

2. A method as in claim 1 further comprising:

15 determining a steering threat number in response to said vehicle kinematics and said kinematics of said at least one object; and

determining a threat of said at least one object in response to said steering threat number.

20 3. A method as in claim 1 wherein determining kinematics of said vehicle and determining kinematics of said at least one object comprise:

determining a path of the vehicle; and

25 determining a path of said at least one object.

4. A method as in claim 1 wherein determining kinematics of said vehicle and determining kinematics of said at least one object comprise determining relative position, velocity, and

acceleration of said at least one object relative to the vehicle.

5. A method as in claim 1 wherein determining kinematics of said vehicle and 5 determining kinematics of said at least one object comprise determining yaw rate of the vehicle.

6. A method as in claim 1 wherein determining said brake threat number comprises:

determining a deceleration at zero range 10 value; and

determining a maximum vehicle deceleration value.

7. A method as in claim 6 wherein determining said brake threat number further 15 comprises dividing said deceleration at zero range value by said maximum vehicle deceleration value.

8. A method as in claim 1 wherein determining said brake threat number comprises determining an average braking value.

20 9. A method of performing threat assessment within a vehicle comprising:

detecting at least one object;

determining kinematics of the vehicle;

determining kinematics of said at least one 25 object;

determining a steering threat number in response to said vehicle kinematics and said kinematics of said at least one object; and

determining a threat of said at least one 30 object in response to said steering threat number.

10. A method as in claim 9 further comprising:

determining a brake threat number in response to said vehicle kinematics and said
5 kinematics of said at least one object; and

determining a threat of said at least one object in response to said brake threat number.

11. A method as in claim 9 wherein determining said steering threat number comprises:

10 determining a lateral acceleration at zero range value; and

determining a maximum lateral acceleration value.

12. A method as in claim 11 wherein
15 determining said steering threat number further comprises dividing said lateral acceleration at zero range value by said maximum lateral acceleration value.

13. A method as in claim 9 wherein
20 determining said steering threat number comprises determining an average lateral acceleration value.

14. A threat assessment system for a vehicle comprising:

25 at least one object detection sensor generating at least one object detection signal; and

a controller coupled to said at least one object detection sensor and determining a braking threat number and a steering threat number in response to said at least one object detection
30 signal, said controller determining a threat of said at least one object in response to said braking threat number and said steering threat number.

15. A system as in claim 14 wherein said controller performs at least one countermeasure in response to said braking threat number.

16. A system as in claim 14 wherein said controller reduces traveling speed of the vehicle when said brake threat number is above a predetermined value.

17. A system as in claim 14 wherein said controller reduces traveling speed of the vehicle when said steering threat number is above a predetermined value.

18. A system as in claim 14 wherein said controller adjusts direction of travel of the vehicle when said steering threat number is above a predetermined value.

19. A system as in claim 14 wherein said controller adjusts direction of travel of the vehicle when a brake threat number is above a predetermined value.

20. A system as in claim 14 wherein said controller, in determining a braking threat number and a steering threat number, determines a deceleration at a zero range profile, a maximum vehicle deceleration profile, a lateral acceleration at zero range profile, and a maximum lateral acceleration profile.